AMENDMENTS

1. (Currently Amended) A method for producing a mixture of nucleic acids, said method comprising:

(a) providing an array of distinct single-stranded probe nucleic acids of differing sequence where each distinct probe present on said array comprises a constant domain and a complement variable domain; wherein said complement variable domain is at the 5' end of said each distinct probe;

(b) hybridizing nucleic acids complementary to said constant domain with said array of single-stranded probe nucleic acids to produce a template array of overhang comprising duplex nucleic acids, wherein each overhang comprising duplex nucleic acid of said array comprises a double-stranded constant region and a single-stranded variable region overhang;

(c) subjecting said template array of overhang comprising duplex nucleic acids to a ~~primer extension~~ reaction that produces a solution phase product comprising a mixture of single stranded nucleic acids of differing sequence; and

(d) separating said mixture of nucleic acids from said template array.

2. (Original) The method according to Claim 1, wherein said mixture of nucleic acids is a mixture of deoxyribo-oligonucleotides.

3. (Original) The method according to Claim 1, wherein said constant domain comprises at least one domain selected from the group consisting of: a linker domain; a functional domain; and a recognition domain.

4. (Original) The method according to Claim 1, wherein said step (c) comprises a protocol selected from the group consisting of: linear PCR; strand displacement amplification; and *in vitro* transcription.

5. (Currently Amended) A method for producing a mixture of a plurality of distinct deoxyribo-oligonucleotides of differing sequence, wherein each distinct deoxyribo-oligonucleotide of said plurality comprises a different variable domain V, said method comprising:

(a) providing an array of a plurality of surface immobilized distinct single-stranded probes, wherein each distinct surface immobilized single-stranded probe present on said array is described by the formula:

surface-L-R-F-cV-5'

wherein:

L is an optional linking domain;

R is a recognition domain;

F is a functional domain; and

cV is a complement domain having a sequence that hybridizes under stringent conditions to a variable domain of one of said distinct oligonucleotides of said plurality;

(b) contacting said array of a plurality of surface immobilized distinct single-stranded probes under hybridization conditions with a population of nucleic acids of the formula:

5'-cR-cF-3'

wherein:

cR is the complement of R; and

cF is the complement of F;

whereby a template array of overhang comprising duplex nucleic acids is produced, wherein each overhang comprising duplex nucleic acid of said array is described by the formula:

surface-L-R-F-cV-5'

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5'-cR-cF-3';

(c) subjecting said template array of overhang comprising duplex nucleic acids to a ~~primer extension~~ reaction that produces a solution phase product comprising a mixture of <u>single stranded</u> nucleic acids of differing sequence; and

(d) separating said mixture of nucleic acids from said template array, to produce said mixture of a plurality of distinct deoxyribo-oligonucleotides of differing sequence, wherein each distinct constituent of said plurality comprises a different variable domain V.

6. (Original) The method according to Claim 5, wherein said linker domain

ranges in length from about 0 to 10 bases.

7. (Original) The method according to Claim 5, wherein said functional domain is an RNA polymerase promoter domain.

8. (Original) The method according to Claim 5, wherein said recognition domain is recognized by a restriction endonuclease.

9. (Original) The method according to Claim 5, wherein said step (c) comprises a protocol selected from the group consisting of: linear PCR; strand displacement amplification; and in vitro transcription.

10. (Original) A method of making a population of target nucleic acids from an initial mRNA sample, said method comprising:

(a) generating a mixture of nucleic acids according to the method of Claim 1; and

(b) employing said mixture of nucleic acids as primers in a target generation step in which target nucleic acids are produced from said mRNA sample;

whereby said population of target nucleic acids is produced.

11. (Original) The method according to Claim 10, wherein said target generation step (b) comprises a template driven primer extension reaction.

12. (Original) The method according to Claim 10, wherein said target generation step (b) produces labeled target nucleic acids.

13. (Original) A hybridization assay comprising the steps of:

(a) generating a set of target nucleic acids according to the method of Claim 10;

(b) contacting said set of target nucleic acids with an array of probe nucleic acids under hybridization conditions; and

(c) detecting the presence of target nucleic acids hybridized to probe nucleic acids of said array.

14. (Original) The assay according to Claim 13, wherein said target nucleic acids are labeled.

15. (Original) The assay according to Claim 13, wherein said assay further comprises washing unbound target away from the surface of said array.